PERFORMANCE AUDIT REPORT

ON

CONSTRUCTION OF ARRAR MUGHLAN DAM CHAKWAL

IRRIGATION DEPARTMENT

GOVERNMENT OF THE PUNJAB

AUDIT YEAR 2015-16

AUDITOR GENERAL OF PAKISTAN

PREFACE

The Auditor General conducts audit under Articles 169 and 170 of the Constitution of the Islamic Republic of Pakistan 1973, read with sections 8 and 12 of the Auditor General's (Functions, Powers, Terms and Conditions of Service) Ordinance, 2001. The audit of project "Construction of Arrar Mughlan Dam Chakwal" executed by the Irrigation Department, Government of the Punjab was carried out accordingly.

The Directorate General Audit Works (Provincial), Lahore conducted audit of the project "Construction of Arrar Mughlan Dam Chakwal" Project during 2015-16 with a view to reporting significant findings to the stakeholders. Audit examined the economy, efficiency, and effectiveness aspects of the Project. In addition, Audit also assessed, on test check basis whether the management complied with applicable laws, rules, and regulations in managing the Project. The Audit Report indicates specific actions that, if taken, will help the management realize the objectives of the Project. Most of the observations included in this report have been finalized in the light of discussion in the SDAC meeting.

The Audit Report is submitted to the Governor of Punjab in pursuance of the Article 171 of the Constitution of the Islamic Republic of Pakistan 1973, for causing it to be laid before the Provincial Assembly.

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Islamabad
Dated: 16th March, 2016

(**Rana Assad Amin)**
Auditor General of Pakistan

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EXECUTIVE SUMMARY

ABBREVIATIONS & ACRONYMS

AA	Administrative Approval
ADP	Annual Development Programme
B&R	Buildings and Roads
Cft	Cubic Feet
DAO	Divisional Accounts Officer
DFR	Departmental Financial Rules
DNIT	Draft Notice Inviting Tender
EIA	Environmental Impact Analysis
ISSAIs	International Standards of Supreme Audit Institutions
Kg	Kilogram
Km	Kilometer
LAC	Land Acquisition Collector
MB	Measurement Book
M&R	Maintenance & Repair
MRS	Market Rates System
MS	Mild Steel
P/L	Providing / Laying
PDWP	Provincial Development Working Party
PFR	Punjab Financial Rules
PPRA	Punjab Procurement Regulatory Authority
PWD	Public Works Department
RCC	Reinforced Cement Concrete
Rft	Running Foot
SAP	Systems, Applications and Products
SDAC	Special Departmental Accounts Committee
Sft	Square Foot
TE	Transfer Entry
TSE	Technically Sanctioned Estimate

EXECUTIVE SUMMARY

Directorate General Audit Works (Provincial), Lahore conducted the performance audit of “Construction of Arrar Mughlan Dam Chakwal” in February 2016. The main objectives of the audit were to evaluate the financial management, achievements of the project objectives and the desired benefits as envisaged in PC-I with special reference to economy, efficiency and effectiveness. The audit was conducted in accordance with the International Standards of Supreme Audit Institutions (ISSAIs).

The scheme, funded under Annual Development Programme (ADP), was approved at a cost of Rs 651.984 million by the Secretary Irrigation Department in March 2012 with stipulated completion period of thirty three (33) months. The detailed estimate was technically sanctioned at a cost of Rs 662.539 million in April 2012. Later on, amended administrative approval in respect of three packages for an amount of Rs 829.375 million was issued in February 2014. Amended technical estimate was approved at a cost of Rs 816.013 million in February 2014.

The scheme was split into three Packages. Originally, after completing the codal formalities, the work of Package-A was awarded at a cost of Rs 142.129 million, Package-B at a cost of Rs 248.396 million and Package-C at a cost of Rs 116.978 million in May 2012. Package-A was enhanced to Rs 199.95 million after the revision. The execution of work of three Packages was in progress till the time of audit in February 2016. Expenditure of Rs 621.762 million had been incurred upto February 2016 and audited accordingly on test check basis.

Project funds were released according to the ADP year-wise allocations. However, PC-I did not prescribe financial phasing in order to complete the project in time. The project completion was delayed by almost two years mainly due to financial constraints and poor contract management. Project objectives and targets as envisaged in the PC-I could not be evaluated and quantified because the project was still in execution phase and also, the department was not maintaining any socio-economic data which could become the basis of evaluation of the project.

The system of internal controls as laid down in the departmental codes / instructions lacked effective implementation because during audit certain lapses in financial management, procurement and contract management, construction and works etc. were observed.

Key Audit Findings

Audit findings, categorized into major issues of financial management, procurement & contract management, construction & works and monitoring & evaluation were as under:

1. Scrutiny of Financial Management record revealed overpayment & loss of Rs 91.735 million due to incorrect application of rates, allowing excess lead and non-receipt of vouched account.

2. Contract Management was not found to be effective enough to complete the project as per stipulated schedule.

3. Record pertaining to Construction & Works revealed overpayment of Rs 1.756 million due to payment of imbalance rates.

Recommendations

Audit observed that in most of the cases, overpayments, losses and irregularities were either due to weak technical, supervisory and financial controls or poor contract management. Principal Accounting Officer needs to strengthen internal controls in the department in the light of following recommendations:

i. An effective regulatory mechanism to ensure adequate year wise funding is required to be developed for timely completion of the projects. Financial phasing may be properly provided in PC-1 and yearly releases should be sufficient to cater for the financial requirements for timely completion of the project.

ii. Recovery of overpayment/loss due to incorrect application of rates is required to be made from the contractors and vouched account should be obtained from LAC.

iii. Penalty may be imposed on the contractors as per rule for violating the applicable rules.

iv. Action is required to be initiated and responsibility fixed against the officers concerned for lapses and violation of rules.

1. INTRODUCTION

1.1 Background Information:

The North Central area of the Punjab Barani tract is the Potohar Plateau. The annual average rain fall ranges from 450 mm to 1600 mm. As per historical data, 2/3rd rain fall precipitate during three months of monsoon. The delayed monsoon and erratic winter rain fall is a common feature which makes the agriculture yield uncertain. On the other hand, topography of the hilly area with steep ground slopes helps the rain water to form numerous streams running at high velocity which not only erode the precious land but also does not get a chance to soak down to recharge the ground water table.

In order to conserve precious rain water, harness it for agriculture and recharging ground water reservoir, the only solution was to build dams in Potohar area. The area of district Chakwal is water scarce and agriculture mainly depends upon rains. The agriculture area of Chakwal is more than 7.5 lacs acres whereas only 0.6 lac acres can be irrigated through 20 dams which are either already constructed or under construction.

Through identification of local public and carrying further investigation by Small Dams Organization, a new site on Dogger Nullah was explored where "Arrar Mughlan Dam" was to be constructed. Homogeneous earth fill dam was proposed to supply 1500 acres fertile land by gravity flow. Besides this, drinking water supply to adjoining villages would be improved by installing drinking water schemes.

The Scheme, funded under Annual Development Programme (ADP), was originally approved at a cost of Rs 651.984 million in March 2012 with completion period of thirty three (33) months which was later on revised to Rs 829.375 million. Detailed estimate was technically sanctioned at a cost of Rs 662.539 million vide No. BD/Dev/2012/3497-98/130/2011 dated 16.04.2012 which was revised to Rs 816.013 million vide No. BD/Dev/2014/34/1521-22/130/2014 dated 28.02.2014. The scheme was split into three (03) packages. Small Dams Division Chakwal was entrusted the responsibility of completion of the Project.

1.2 Project objectives were as follows:

The main objectives of construction of the proposed dam were in line with the government strategy for the Barani area development in Potohar Plateau as it aims at construction of new small dams in Potohar to:

i. Provide assured irrigation water for the agriculture development in the area.
ii. Re-charge ground water aquifer in the adjoining areas.
iii. Develop the fish culture & live stock.
iv. Conserve the Barani area land.
v. Provide the drinking water supply to the adjoining villages.

1.3 The work was divided into three packages. Package-A of the work was awarded at a cost of Rs 142.129 million to the contractor with a time limit of 28 months. Package-B of the work was awarded to the contractor at a cost of Rs 248.395 million with a time limit of 32 months and Package-C of the work was awarded at a cost of Rs 116.978 million to the contractor with a time limit of 32 months. All the three packages were awarded on 30.05.2012.

1.4 Summary of year-wise financial results i.e. ADP allocations, funds and actual expenditure was as under:

Table- 1 **(Rs in million)**

Sr. No.	Year	ADP allocations	Actual expenditure
1	2011-12	125.000	124.999
2	2012-13	120.000	119.999
3	2013-14	140.000	140.000
4	2014-15	150.000	150.000
5	2015-16 (Up to February 2016)	150.000	86.762
	Total	**685.000**	**621.760**

Source: Budget Book and statement of releases / expenditure.

Perusal of above table depicted that the department showed good performance regarding utilization of funds during the financial years 2011-12 to 2015-16.

1.5 Physical and management progress in comparison to PC-I was as under:

Table- 2 **(Rs in million)**

Revised planned cost as per Revised PC-I	Planned period of completion as per PC-I	Actual period of completion of project	Actual expenditure up to February 2016	Percentage of expenditure (financial progress upto February 2016	Percentage of physical progress upto February 2016
829.375	33 month	In progress	621.760	75%	88%

The above table depicts that physical progress of the work on three packages was 88% and financial progress was 75% up to February 2016 although the stipulated time period had elapsed. Hence, the management could not complete the project within given timeline as stipulated in PC-I. Resultantly, the work on three packages was still in progress.

1.6 The cost of the project was revised due to increase in the rates of materials and scope of work originally planned in PC-I. Details of revisions were as under:

Table-3 **(Rs in million)**

Cost as per original PC-I	Cost as per revised PC-I	Original TS estimate	Revised TS estimate	Expenditure upto February 2016
651.984	829.375	662.539	816.013	621.760

The PC-I was revised at a cost of Rs 829.375 million in February 2014 and then revised technical sanctioned estimate was approved at a cost of Rs 816.013 million in February 2014.

2. AUDIT OBJECTIVES

2.1 The major objectives of the audit were to:

i. Analyze the overall performance vis-à-vis planned targets, achievement of objectives, cost and time over-run and timely accrual of benefits/outcomes.

ii. Assess whether or not the resources were utilized for the purpose for which they were provided with respect to three Es (Economy, Efficiency, and Effectiveness).

iii. Review compliance with applicable rules, regulations and procedures.

3. AUDIT SCOPE AND METHODOLOGY

3.1 The audit scope included the examination of accounts of the scheme for the financial years from 2011-12 to 2015-16 (up to February 2016).

3.2 Audit methodology included data collection, examination/analysis of record, discussions with engineering staff and interviews. Site visits were also included to have a physical view of the service quality of the Dam.

4. AUDIT FINDINGS AND RECOMMENDATIONS

4.1 Organization and Management

4.1.1 The project was executed by the Chakwal Dams Division, Chakwal under the administrative control of Irrigation Department. The Division was also executing other projects besides this one during that period. The Division was headed by an Executive Engineer and supported by Sub-Divisional Officers, Sub-Engineers and Divisional Accounts Officer.

4.1.2 Job descriptions of the said staff were well defined in the Public Works Department Code. The Sub-Engineer was supposed to be present at site throughout the execution of the work. The Sub-Divisional Officer was to visit the site in routine and was responsible for 100% checking of work whereas Executive Engineer visited the site occasionally. He was responsible to carry out 10% check measurements of work done. The Chief Engineers and Project Director concerned were also required to carry out physical inspections of the projects under execution.

4.1.3 The contractor was to submit the bills through Consultant, Sub-Engineer which were forwarded to the Sub-Divisional Officer. The Divisional Accounts Officer pre-audited the bills which were passed by the Executive Engineer. Then the cheques were issued to the contractors by the Sub-Divisional Officer for payment.

4.1.4 The accounts of formations were compiled on monthly basis and submitted to the Director General Accounts Works, Lahore for post audit purpose. However, civil accounts of the formations were prepared on System Application Product SAP(R-3) system in the respective District Accounts Offices.

4.1.5 Internal audit mechanism and IT system did not exist in the organizational set-up of the department.

4.2 Financial Management

4.2.1 Cash flows / release of funds were regulated by the Finance Department through its cash management plan. Generally, funds were released to the executing agency at the start of the financial year to take up execution of works as per work plan.

4.2.2 Financial reports were prepared on monthly basis in respect of development schemes and after incorporation in the provincial monthly account; these were submitted to the Finance Department every month.

4.2.3 Financial reports were required to be prepared on the format as prescribed in the accounting policies and procedures prescribed by the Auditor General of Pakistan.

4.2.4 Accounts were required to be submitted on monthly basis to the accounting offices up to 5th of every calendar month.

4.2.5 Reconciliation of expenditure was done with the accounting offices on monthly basis by the spending units as prescribed in the Punjab Budget Manual.

4.2.6 Payments were regulated by the provision of contract agreements, Departmental Financial Rules (DFR) and Market Rate System (MRS).

4.2.7 Engineering divisions maintained their accounts manually. Hence, data archiving was not involved.

4.2.8 The issues relating to the financial management observed during audit involving an amount of Rs 91.735 million were as under:

4.2.9 Non receipt of vouched account from LAC – Rs 48.098 million

According to appendix-17 read with rule 3 of Punjab Financial Rules (Volume-II), Land Acquisition Collector (LAC) is required to submit vouched account to the Executive Engineer/ Deputy Director, showing payment of awarded amount of land compensation to the owners of land.

Audit observed that an amount of Rs 48,098,646 was paid to LAC Chakwal on account of compensation of land to land owners pertaining to "Construction of Arrar Mughlan Dam Chakwal". Although a considerable period of about four years had elapsed but vouched account was not received from LAC Chakwal.

Violation of PFR resulted in non-receipt of vouched account amounting to Rs 48.098 million.

The Department replied that this office had requested the Land Acquisition Collector, Chakwal for submission of vouched account since the execution of work but unfortunately no compliance had been made so far. Another reminder was issued vide letter No.1073/40-G, dated 06.04.2016. After receipt of the said vouched account, the same would be submitted to Audit for verification.

The matter was also discussed in the SDAC meeting held on 30.11.2016. The Department explained that the matter towards receipt of vouched account from LAC was under process.

The Committee directed for receipt of vouched account and its verification. No progress was reported till finalization of this report.

Audit recommends early receipt of vouched account and its verification from Audit.

(Para 25)

4.2.10 Overpayment due to higher rates of non-standardized items - Rs 22.842 million

According to the instructions issued by the Finance Department, vide No. RO(Tech)FD-18-23/2004, dated 21.09.2004, rate analysis for the non-standardized items shall be prepared by the Executive Engineer, clearly giving the specifications of the material used and as approved by the competent authority, not below the rank of Superintending Engineer on the basis of input rates of relevant quarter, placed at website of Finance Department.

4.2.10.1 Audit observed that a non-standardized item of work "*Providing & laying welding of MS pipe 24" dia, ¼" thick including painting etc. complete*" for a quantity of 9,950 rft was provided in the revised TS estimate of the work @ 6,182 per rft amounting to Rs 61,510,900. This item of work was not included in the original TS estimate of the work. The rate was paid by the department @ Rs 5,331.98 per rft i.e. by deducting contractor's quoted premium @ 13.75 % below. Analysis of rate prepared by the department i.e., Rs 6,182 per rft was on higher side due to following audit observations:

i. Under sub head-A i.e. Cost of Pipe the cost of one rft MS pipe 24" dia, ¼" thick was taken as Rs 3,950 per rft. The same was required to be taken from the Input Rates of "Material" for 1st Bi-annual 2012 District Chakwal. The weight of one rft MS pipe 24" dia, ¼" thick came to 28.20 kg. Therefore, the cost of 28.20 kg MS sheet ¼" thick for preparing one rft pipe came to Rs 2,622 (28.20 kg x Rs 93 per kg) as per input rates of "Material" 1st Bi-annual 2012 (District Chakwal) vide item No. H.HA(3) page 81. But the department took rate of Rs 3,950 instead of input rate of Rs 2,622.60.

ii. Under sub heads B and E i.e. carriage of pipe and painting of pipe, the department took MRS rates of 1st Bi-annual 2013 instead of 1st Bi-annual 2012 as the administrative approval / PC-I was accorded on 1st Bi-annual 2012. The cost of carriage and painting was taken in the analysis of rate as Rs 28.78 and Rs 193.05 per rft instead of admissible rate of Rs 26 and Rs 160.08 per rft respectively.

It is pertinent to mention that cost of carriage, laying, welding, generator and painting was taken by Audit separately under sub head B, C, D & E and composite rate was worked out as Rs 4,555 per rft instead of Rs 6,182 per rft and the payable rate after deduction of 13.75% quoted premium came to Rs 3,929 per rft instead of Rs 5,331.98. In this way excess rate of Rs 1,402.98 was paid to the contractor.

Violation of Finance Department's instructions resulted in overpayment of Rs 9,025,370 to government.

The department replied that in case of sub para (i), the rate analysis of non-standardized item of work "M.S. pipe 24" dia ¼" thick" was prepared on the basis of prevailing market rate. The rate of Rs 3,950 per rft pipe in 5 ft length (including molding, beveling, welding etc) was collected from market. The rate of carriage from market to site of work, laying in trench and jointing, complete in all respect was included in the above mentioned rate. The net worked out rate was approved by the competent authority and paid to the contractor accordingly. However, the amount to the tune of Rs 196,592 pointed out in sub para (ii) would be recovered from the next contractor's claim. Recovery was admitted in sub para (ii), however the reply regarding sub para (i) was not tenable because the rate of MS sheet for casing of MS pipe 24" dia was available in the input rates of material displayed at the website of Finance Department which was to be taken while making analysis of rate instead of taking market rate.

The matter was also discussed in the SDAC meeting held on 30.11.2016. The Department explained that the rate analysis of non-standardized item of work "M.S. pipe 24" dia, ¼" thick" (including molding, welding etc.) was prepared on the basis of market rate. The rate of carriage from market to site of work, laying in trench, jointing, complete in all respects was included and rate of Rs 5,331.98 per rft was paid by deducting contractor's quoted premium @ 13.75% below. The net worked out rate had been got approved @ Rs 5,331.98 per rft by the competent authority and paid to the contractor accordingly.

The Committee directed for verification of record within 30 days. The compliance of SDAC's directive was not made till the finalization of this report.

Audit recommends recovery of overpayment.

(Para 32)

4.2.10.2 Audit observed that in the original TS estimate of the work the item of work "*P/L reinforced cement concrete in roof, slab, beams, column, lintels, girders and other structure*" was approved with the ratio of 1:1.5:3 @ Rs 258.30 per cft. Subsequently, the ratio of this item was changed to 1:2:4 with 10% extra cement in the revised TS estimate of the work. Payment to contractor was made @ Rs 207.30 per cft with ratio 1:2:4 along with 10% extra cement. Audit was of the view that payment was required to be made @ Rs 178.58 per cft instead of Rs 207.30. The department while making analysis of rate of this item on 1:2:4 with 10% extra cement had reduced the rate by 14.67% i.e., overall below percentage quoted by the contractor instead of 26.35% below quoted against this item. In this way excess rate of Rs 28.72 was paid to the contractor.

Violation of Finance Department's instructions resulted in overpayment of Rs 6,871,710 to the contractor.

The department replied that ratio of R.C.C was changed from 1:1.5:3 to 1:2:4 with 10% extra cement during review of design of structure by NESPAK Consultants and Design Review Committee. Accordingly, the analysis of rate of new item i.e., R.C.C 1:2:4 had been prepared as per 1st Bi-annual 2012 and deduction of 14.67% (Overall below percentage) had been applied on the worked out rate. As far as the reduction by 26.35% on the item of R.C.C 1:1.5:3 was concerned, this below percentage was not applicable on new item. The reply was not tenable because no new item was provided but only the ratio of the previous item of work RCC was changed from 1:1.5:3 to 1:2:4. As the contractor quoted 26.35% below rate against the item of RCC 1:1.5:3 therefore the same percentage was required to be deducted while making payment of similar item of RCC 1:2:4.

The matter was also discussed in the SDAC meeting held on 30.11.2016. The department reiterated its earlier reply.

The Committee was not convinced with the departmental reply and deferred the para till finalization of the bill for verification of maintenance/achieving the prescribed ratio below 26.35%. No progress was reported till finalization of this report.

Audit recommends recovery of overpayment from contractor and its verification.

(Para 6)

4.2.10.3 Audit noted that payment of a non-standardized item of work "*providing and casting in situ bored RCC pile 36" dia with concrete 1:2:4*" was paid @ Rs 4,283 per rft for a quantity of 2,403 rft amounting to Rs 10,292,049. Analysis of rate of this item of work was prepared by Audit on the template of Finance Department on the basis of input rates of material labour and equipment, 1st bi-annual 2012 (District Chakwal) and the composite rate came to Rs 3,555.06 per rft and by deducting contractor's quoted premium @ 17.36% below, payable rate came to Rs 2,937.90 (Rs 3,555.60 x 17.36% below) but the payment to contractor was made @ Rs 4,283 per rft. In this way excess rate of Rs 1,345.10 per rft was paid to the contractor.

Violation of Finance Department's instructions resulted in overpayment of Rs 3,232,275 to the contractor.

The department replied that the analysis of rate of 36" dia pile was prepared on the basis of input rate of Finance Department on material, labour & equipment, (1st BI-annual 2012 District Chakwal). The worked out rate of Rs 4,283 per rft was approved by the competent authority and accordingly paid to the contractor. The reply was not tenable because Audit had also prepared analysis of rate of this item of work on the template of Finance Department by taking input rates of material, labour and equipment for 1st bi-annual 2012 (District Chakwal) and the composite rate came to Rs 2,937.90.

The matter was also discussed in the SDAC meeting held on 30.11.2016. The Committee was not convinced with the departmental reply and directed that detailed verification of record be completed within 30 days. No further progress was reported till finalization of this report.

Audit recommends early recovery.

(Para 12)

4.2.10.4 Audit noted that a non-standardized item of work "*Providing and laying sand including leveling and dressing to designed section i/c carriage from Sunj Nullah to site of work lead 40 km*" was provided in the original TS estimate @ Rs 2,097.97 per % cft for a quantity of 3,137 cft amounting to Rs 65,813. Quantity of this item was increased in the revised TS estimate from 3,137 cft to 165,218 cft. The contractor quoted rate of Rs 4,000 per % cft against the estimated rate of Rs 2,097.97 which came to 90.66% above the TS rate. Analysis of the rate of this non-standardized item of work was not forthcoming from record. Audit worked out rate analysis of this non-standardized item on the basis of input rates of material and labour for 1st Bi-annual 2012 (District Chakwal) and composite rate worked out was Rs 1,258.20 per % cft instead of Rs 2,097.97 as worked out by the department. In this way excess rate of Rs 839.77 was provided in the original / revised TS estimate of the work.

Violation of Finance Department's instructions resulted in overpayment of Rs 2,645,314 to contractor.

The department replied that the payment was made as per quoted rate by the contractor. The same rate was incorporated in the revised PC-I/ T.S estimate, which was approved/ sanctioned by the competent authority. Reply was not satisfactory because Audit had worked out the rate of Rs 1,258.20 per % cft on the basis of input rates of material and labour for 1st bi-annual 2012 (District Chakwal) displayed at the website of Finance Department.

The matter was also discussed in the SDAC meeting held on 30.11.2016. Department explained that rate for "P/L coarse sand" was approved/ sanctioned in the PC-I/TSE and it was paid accordingly.

The Committee was not convinced with the departmental reply and directed that the total amount involved in the para be recovered within 60 days. No progress was reported till finalization of this report.

Audit recommends early recovery and its verification.

(Para 26)

4.2.10.5 Audit noted that an item of work "*Providing and laying coarse sand including leveling and dressing to designed section including carriage from Lawrence Pur to site of work lead 220 km*" was provided in the TS estimate of the work @ Rs 3,698.70 per % cft for a quantity of

85,551 cft amounting to Rs 3,164,275. The contractor quoted rate of Rs 3,500 per % cft against this item. The item provided in the estimate was to be brought from Lawrance Pur by allowing lead of 220 km. The item of work coarse / harrow sand was available in the input rate of material 1st bi-annual 2012 (Chakwal) vide item No.06.006 with at site rate of Rs 2,300 per cft which should have been taken instead of allowing lead of 220 km from Lawrence Pur to site of work. Moreover, labour charges of Rs 137.50 were allowed instead of Rs 118.80. Analysis of rate of this item of work on the basis of at site rate of coarse/harrow sand and labour rate was prepared by Audit and admissible rate came to Rs 2,878.80 per 100 cft instead of Rs 3,698.70 as prepared by the department. In this way excess rate of Rs 819.90 was provided in the estimate.

Violation of Finance Department's instructions resulted in overpayment of Rs 701,433 to the contractor.

The department replied that the payment was made to the contractor as per his quoted rate. The same rate was applied in the revised PC-I /T.S estimate which was accordingly, approved / sanctioned by the competent authority. The reply was not convincing because in the nomenclature of the item lead for carriage of coarse sand 220 km from "Lawrance pur to site of work" was allowed / paid which was not justified because in the "Input Rates" of material displayed at the website of Finance Department for 1st Bi-annual 2012 (District Chakwal) at site rate of coarse sand was given as Rs 2,300 per % cft vide item No.06.006.

The matter was discussed in the SDAC meeting held on 30.11.2016. Department explained that rate for "P/L coarse sand" was approved/ sanctioned in the PC-I /TSE and it was paid accordingly.

The Committee was not convinced with the departmental reply and directed that total amount involved in the para be recovered within 60 days. No progress was reported till finalization of this report.

Audit recommends early recovery from the contractor.

(Para 3)

4.2.10.6 Audit noted that payment of a non-standardized item of work "*P/L coarse sand including leveling dressing to designed section i/c carriage from Lawrence Pur to site of work lead 240 km*" was made @ Rs 4,829.82 per % cft for a quantity of 15,503 cft amounting to Rs 748,767. Analysis of rate of this non standardized item was not forthcoming from record. Analysis of rate of this item was prepared by Audit on the basis of input / MRS rates of material and labour of 1st Bi-annual 2012 (District Chakwal) and the composite rate came to Rs 2,878.80 per % cft and by deducting overall below percentage of 14.67%, payable rate came to Rs 2,456.48 per % cft against the paid rate of Rs 4,829.87. In this way excess rate of Rs 2,373.34 per % cft was paid to the contractor. It is pertinent to mention that Audit worked out the rate by taking the input rate of material i.e. coarse sand Rs 2,300 per % cft at site rate in which no lead was to be paid separately (vide item No.06.006) but as per nomenclature of the item paid by the department, 240 km lead from Lawrence Pur to site of work was allowed which was not justified.

Violation of Finance Department's instructions resulted in overpayment of Rs 367,937 to the contractor.

The department replied that the payment was made as per quoted rate by the contractor. The same rate was incorporated in the revised PC-I / T.S estimate which was accordingly, approved / sanctioned by the competent authority. The reply was not convincing because in the nomenclature of the item lead for carriage of course sand of 240 km from "Lawrence pur to site of work" was allowed / paid which was not justified because in the "Input Rates" of material displayed at the web site of Finance Department for 1st Bi-annual 2012 (District Chakwal) the rate of course sand was given as Rs 2,300 per % cft vide item No.06.006.

The matter was also discussed in the SDAC meeting held on 30.11.2016. Department explained that rate regarding "P/L coarse sand" was approved/ sanctioned in the PC-I/TSE and it was paid accordingly.

The Committee was not convinced with the department and directed that total amount involved in the para be recovered within 60 days. No progress was reported till finalization of this report.

Audit recommends early recovery from contractor and its verification.

(Para 29)

4.2.11 Overpayment due to incorrect application of rate - Rs 17.307 million

According to MRS Chapter No.6, item No.6(a)(ii)(3), if no form work i.e., horizontal shuttering is required, the rate of item RCC, type-C (nominal mix 1:2:4) would be Rs 175.85 per cft.

Audit observed that an item of work "*Providing and laying reinforced cement concrete (RCC) using coarse sand and screened graded and washed aggregate in required shape and design ratio 1:2:4*" was provided in the the revised TS estimate of the work @ Rs 235 per cft and by adding 10% cost of extra cement and 14.67% overall rebate on work the payable rate provided was Rs 207.30 per cft. As the RCC 1:2:4 was to be laid on spillway of the Dam where no horizontal shuttering was required, therefore, the rate of item No.6(a)(ii)(3) chapter-6 @ Rs 175.85 per cft was required to be provided in the revised TS estimate and the rate to be paid was Rs 134.99 per cft. In this way, the department paid rate of the item RCC 1:2:4 with horizontal and vertical shuttering @ Rs 207.30 per cft instead of Rs 134.99 per cft i.e., without horizontal shuttering. Therefore, extra rate of Rs 72.31 was paid to contractor.

Violation of Finance Department's instructions resulted in overpayment of Rs 17,307,326 to the contractor due to incorrect application of rate.

The department replied that un-controlled chute type spillway was designed on the left side of Dam with 1:6 glacis slope. The glacis / sloping portion was proposed to be covered / protected with RCC blocks having different size and thickness to achieve required strength. To retain / control the freshly poured / placed concrete of recommended slump in the vertical shuttering was impossible without applying inclined steel shuttering at 1:6 slope. The reply was not convincing because no horizontal shuttering was involved in the execution of item RCC 1:2:4, therefore, rate to be provided was Rs 175.85 instead of Rs 235 per cft.

The matter was also discussed in the SDAC meeting held on 30.11.2016. The department explained than un-controlled chute type spillway was designed with glacis slope. Here inclined steel shuttering required additional support / arrangements. The Department further explained that the construction of RCC blocks ratio (1:2:4) with 10% extra cement was not possible without inclined shuttering.

The Committee directed the department to probe the matter by Chief Engineer and produce a certificate that vertical as well as horizontal shuttering was required in the subject item of work. No progress was reported till finalization of this report.

Audit recommends that matter be probed in detail and full recovery of undue payment be made from the contractor.

(Para 05)

4.2.12 Overpayment due to allowing lead from distant quarry - Rs 2.174 million

According to Sl.No.5 of preface of Market Rates System (MRS) and Finance Department letter No. RO(Tech)FD, 2-3/2004 dated 07.08.2004, material from nearest approved quarry shall be used.

Audit observed that provision of an item of work "*Carriage of gravel from Margala to site of work lead 160 km*" was made in the TS estimate of the work @ Rs 3,496.22 per % cft for a quantity of 97,914 cft amounting to Rs 3,423,338. The contractor quoted his rate against this item @ Rs 3,400 per % cft and was paid for a quantity of 97,914 cft up to 26th running bill. Lead of 160 km was provided from Margala quarry to site of work whereas nearest quarry at Choa Saiden Shah was located at a lead of 45 km from site of work. In this way excess lead of 115 km (160-45) was provided in the estimate and paid to the contractor accordingly. The rate from Margala quarry (160 km) was provided @ Rs 3,496.27 per % cft instead of rate of Rs 1,213.55 (with 45 km) from Choa Saiden Shah quarry. In this way excess rate of Rs 2,282.72 was provided in the estimate of the work.

Violation of Finance Department's instructions resulted in incorrect application of rate and overpayment of Rs 2,173,637.

The department replied that the well graded and of uniform shape gravel was required for toe filter of dam. Such type of gravel was not available in any nullah bed located in the vicinity of Choa Sadian Shah. So, the sample of gravel was collected from Margala. The same material was recommended as good filter material. Reply given by the department was not convincing because the department should have obtained samples from the Choa Saiden Shah quarry which was the nearest quarry from site of work.

The matter was also discussed in the SDAC meeting held on 30.11.2016. Department explained that the gravel of required specification and required quantity was not available in the nullah beds located in the surroundings of Choa Saidan Shah /Project area, so, the gravel was transported from Margala, as recommended by consultant in the light of lab test report. Audit contended that Director Road Research & Material Testing Institute Lahore had also conducted many tests of stone from Choa Saiden Shah and declared its stone fit for road works etc.

The Committee directed to produce a certificate by Project Director in support of reply of the department. No progress was reported till finalization of this report.

Audit recommends early recovery and its verification.

(Para 08)

4.2.13 Overpayment due to excess rate - Rs 1.314 million

According to original and revised TS estimate of the work for the construction of Main Dam, lead for transportation of earth to be paid to contractor was provided ¼ mile under sub head Detail of Quantities.

Audit noted that in the original / revised TS estimate of the work provision of an item of work "*Transportation of earth all type when total distance covered in the item of work is more than 1000 ft average extra lead ¼ miles*" was made in the detail of quantities under sub head Main Dam but in the Abstract of Cost, lead of this item of work was provided as ½ mile @ Rs 1,559.50 per ‰ cft instead of admissible lead of ¼ mile @ Rs 1,150.19 per ‰ cft. In this way, excess rate of Rs 409.31 was provided in the original and revised TS estimate of the work.

Violation of TS provision resulted in overpayment of Rs 1,313,611 (5,004,413 cft x Rs 409.31 per ‰ cft – 35.87% below contractor's quoted premium) to the contractor.

The department replied that the earth was actually transported from average extra lead of ½ mile and accordingly paid to the contractor. But lead of ¼ mile instead of ½ mile was typed in the detail of quantities erroneously. Whereas, in the abstract of cost the Item at serial No.3 average extra lead of ½ mile was correctly typed. Reply was not tenable because in package "B" of the same project this item of work i.e., transportation of earth all type was provided and paid for ¼ mile. Therefore, lead of ¼ was also to be provided and paid to contractor of Package-A. The lead given in "Detail of quantities" under sub head "Main Dam" was correct and based on actual distance.

The matter was also discussed in the SDAC meeting held on 30.11.2016. The department explained that the earth was actually transported from average extra lead of ½ mile and accordingly it was tendered and acceptance letter issued. As regard the lead of ¼ mile was concerned as objected by the Audit, it was erroneously provided in the detail of quantities. Whereas, in the Abstract of Cost, average extra lead of

½ mile was typed for this item. Audit contended that in Package-B of the same project, the item "*Transportation of earth all type*" was provided and paid with ¼ mile lead. Therefore, lead of ¼ mile was also to be provided and paid to contractor for Package-A.

The Committee directed the department to get relevant record verified by Audit. No compliance was made till the finalization of this report.

Audit recommends recovery of overpayment at the earliest.

(Para 11)

4.3 Procurement and Contract Management

4.3.1 No direct procurements were involved in the project. The material consumed in the project was supplied by the contractors and payments were supposed to be made on the basis of MRS.

4.3.2 Civil works were executed in accordance with the approved specifications & design and quality of the construction material was to be assured by regional material testing laboratories and Road Research & Materials Testing Institute (RRMTI) Lahore.

4.3.3 Payments to the contractors were regulated by the framework provided in the DFR and Department's Codes/instructions. However, some lapses were observed where un-justified payment was made.

4.3.4 Issue relating to non-observance of contractual obligations, observed during audit, was as under:

4.3.5. Delay in completion of project

As per clause 39 (a) of the agreement, the time allowed for carrying out the work as entered in the tender shall be strictly observed by the contractor.

Audit observed that the work was split into three packages A, B and C and all the three packages were awarded on 30.5.2012. Package A was to be completed in 28 months i.e. up to 30.9.2014 and package B & C were to be completed in 32 months i.e. up to 30.1.2015. Although a considerable period of about one and half year for package A and one year in case of package B and C had lapsed since the stipulated date of completion of work but the works on these packages were still in progress. The works could not be completed in time due to funding constraints and slow progress of work by the contractors, as pointed out by the consultants M/s NESPAK and the department. The contractors were directed time and again to increase the pace of work but they could not complete the works within stipulated time period. This resulted in violation and non implementation of clause 39 of contract agreement and non-recovery on account of compensation for delay.

As a result of the delay, the stakeholders were deprived of the intended benefits as provided in the PC-1 of the project.

The department replied that during the framing of original PC-I, some important structures such as saddle bund near main dam and bridge near village Chak Baqar Shah were missed. Keeping in view need of these structures, the PC-I had to be revised which resulted in increase / change in original scope of work. Therefore, work could not be completed within stipulated period. Reply was not tenable because a period of one and half year for Package-A and one year in case of Package B and C had been elapsed since the stipulated date of completion of works but the works were still in progress.

The matter was also discussed in the SDAC meeting held on 30.11.2016. The department explained that the project had been delayed due to change in scope of work as well as piecemeal release of budget. In this regard time extensions had been granted by the competent authority. Audit contended that the additional work of saddle bund and bridge was only allotted in case of Package-A. If the extra period of six months was given to the contractor of Package-A for completion of additional work even then Packages A, B and C were lagging behind the time schedule.

Moreover, the department could not prioritize the project because in each financial year resources were allocated for new projects without giving priority to the on-going projects.

The Committee directed that final bill in each case be produced at the earliest. No compliance of the SDAC directive was made till finalization of the report.

Audit recommends that responsibility for delay may be fixed and action be initiated against the responsible officials/contractors besides appropriate measures for early completion of the project.

(Para 30)

4.4 Construction and Works

4.4.1 Design and drawings were prepared by the field engineers concerned and vetted / approved through Planning & Design Directorate of the department from the competent authority.

4.4.2 Cost estimates of the scheme were prepared according to the approved specifications and design on the basis of MRS.

4.4.3 In case of Packages A, B & C tendering process as laid down in the rules was followed and the works were awarded on competitive basis after due comparison of quoted rates with the rates approved in the cost estimates.

4.4.4 Execution of work was supervised through construction schedule agreed between the employer and the contractor. Progress of execution was supervised through periodic progress reports and physical inspection of works by the field engineers for ensuring quality and quantity.

4.4.5 Issue of imbalance rates noticed during audit amounting to Rs 1.756 million, was as under:

4.4.6 Overpayment due to imbalance rates - Rs 1.756 million

As per notification issued by Finance Department vide No. RO (TECH) FD 1-2/83-VI dated 29.03.2005, the final cost of tender/payment shall be the same percentage above/below the amount of revised sanctioned estimate as were at the time of approval of the tender to pre-empt excess payment.

Audit observed that TS estimate of the work was Rs 171.795 million against which the contractor quoted tendered amount of Rs 142.129 million which came to 17.36% below the estimated amount of work. Payment of Rs 154.912 million was made to contractor up to 26th running bill. In this way the payment was made @ 1.14% below the estimated amount of work instead of 17.36% below as quoted by the contractor in his tender documents.

Violation of Finance Department's instructions resulted in overpayment of Rs 1,756,024 to the contractor.

The department replied that the project was in progress, the difference i.e., 17.36% below would be maintained in the final bill.

The matter was discussed in the SDAC meeting held on 30.11.2016. Department explained that the project was in progress at site. The difference i.e. 17.36% below would be maintained in the final bill. Audit contended that the project is near completion and 88% physical progress has already been achieved. Therefore, quoted percentage should have been maintained by the department by now. The Committee deferred the para till finalization of work /bill for maintenance of the quoted percentage. No further progress was reported till finalization of the report.

Audit recommends early recovery of imbalance rates and its verification.

(Para 31)

4.5 Asset Management

Data and manual record of dam network under the jurisdiction of Irrigation Department were being maintained dam-wise and location-wise as prescribed in the Department's Codes and Manuals.

4.6 Monitoring and Evaluation

4.6.1 Progress of schemes under execution was reviewed on monthly basis and quarterly basis by the Chief Engineers, Principal Accounting Officer (PAO) concerned and Planning & Development Department.

4.6.2 Internal checks such as inspections, regular monitoring, supervision by field engineers, mechanized testing and laboratory test reports of the executed works are also vital to ensure qualitative execution of work in line with the specifications and approved design.

4.6.3 The Irrigation management needs to augment its monitoring and supervisory role in order to ensure execution of quality work and timely delivery of desired benefits to the public. Internal controls like test check measurements / periodic inspections of works by supervisory officers need to be implemented.

4.7 Environment

4.7.1 No compliance of Section 12 of Pakistan Environmental Protection Act, 1997 was made.

4.7.2 No Environmental Impact Assessment (EIA) was carried out, which was a serious lapse on the part of project authorities.

4.7.3 Despite the fact indicated in the PC-I that the project would have environmental impact the environmental data was not compiled by the project authorities.

4.7.4 No environmental data and analysis thereon were available with the department to check whether or not any remedial steps towards improvement viz-a-viz the planned results were taken or initiated by the department.

4.7.5 The management needs to carry out EIA before the start of every project.

4.8 Sustainability

4.8.1 Sustainability is an integral part of operational performance. Sustainability of the project depends mainly upon the sufficient flow of financial resources both during implementation and operation.

4.8.2 Operational and maintenance cost of Rs 8.293 million per annum was provided in the PC-I. This yardstick needs revision in the light of price increase in the cost of materials and labour.

4.8.3 Irrigation Department is responsible for overall maintenance of dam.

4.8.4 Recurring cost is to be met through annual budget provision under Grant No. 21009 (M&R).

4.8.5 Irrigation Department had the required expertise and skill to operate the Dam.

4.9 Overall Assessment

4.9.1 **Relevance:** MTDF aims to improve existing irrigation system through rehabilitation/improvement and expansion of existing irrigation system. The project was within overall MTDF framework and in line with Government's Sectoral Policies and sectoral priorities identified for Barani area development in Pothohar plateau.

4.9.2 **Efficacy:** Review of the project indicated that there was cost and time overrun resulting in delay in delivery of the desired benefits to the end users.

4.9.3 **Efficiency:** The project which was planned to be completed within thirty three (33) months up to December 2014 had been delayed for more than one and half year. The cost over-run is 27.21%, over the original planned cost in PC-I. The main cause of late completion of work was poor performance of the contractor. No action has so far been initiated by the project authorities against the contractor.

4.9.4 **Economy:** The work pertaining to three Package A, B and C was awarded through open competition. However, overall economy has been compromised by allowing higher rates of some items of work and the same has also been highlighted in the report.

4.9.5 **Effectiveness:** Since the Project was incomplete, therefore, successful achievement of objectives, targets and desired results could not be analyzed and assessed. The project can achieve its desired results only if all components of main work and allied works are completed successfully.

4.9.6 **Compliance with Rules:** Issues of poor financial management, contract management and construction and works depicting irregularities of Rs 93.491 million were noticed. Non-adherence to good financial management practices was a critical area which was required to be given a serious thought for improving service delivery and ensuring timely execution of quality work.

4.9.7 **Performance Rating:** Moderately satisfactory.

4.9.8 **Risk Rating:** Medium.

5. CONCLUSION

5.1 Key Issues for the Future: Fluctuation in the prices of materials/labour and climatic conditions besides inadequate funding were likely to limit performance of project and achievement of objectives.

5.2 Lessons learnt:

v. An effective regulatory mechanism to ensure adequate year wise funding is needed to be developed for timely completion of the projects. Financial phasing given in the PC-1 and yearly releases should be sufficient to cater for the project's financial requirements for its timely completion.

vi. Action was required to be initiated and responsibility fixed against the officers concerned for lapses and violation of rules besides effecting recoveries.

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